

## ABSTRACT OF THE DISCLOSURE

A transmitting apparatus, receiving apparatus, communication system, and a signal processing method of each applying a suitable modulation method and transmission path estimation method in accordance with characteristics of the transmission information for improving the transmission efficiency operate so that at the transmission side, the ratio of adding transmission path estimation pilot symbols is suitably controlled in accordance with an aspect of the data transmitted, for example, the size of the packets transmitted and the state of the transmission path, wherein the transmission data is mapped by the selected modulation method, and the signal is processed in accordance with the method of estimation of the transmission path, and the transmission signal is produced by inverse fast Fourier transform processing and transmitted. At the reception side, the received signal is fast Fourier transformed, the transmission path is estimated by the transmission path estimation method selected at the transmission side, the received signal is corrected in accordance with result, and the received data is reproduced in accordance with the modulation method. Therefore, it is possible to always adopt the optimum transmission method in accordance with the attribute of the transmission data etc. and possible to realize an improvement of a transmission efficiency and an enhancement of the quality of communication.